

# Survey research

Information, step by step, to carry out a research project with data collection via questionnaire

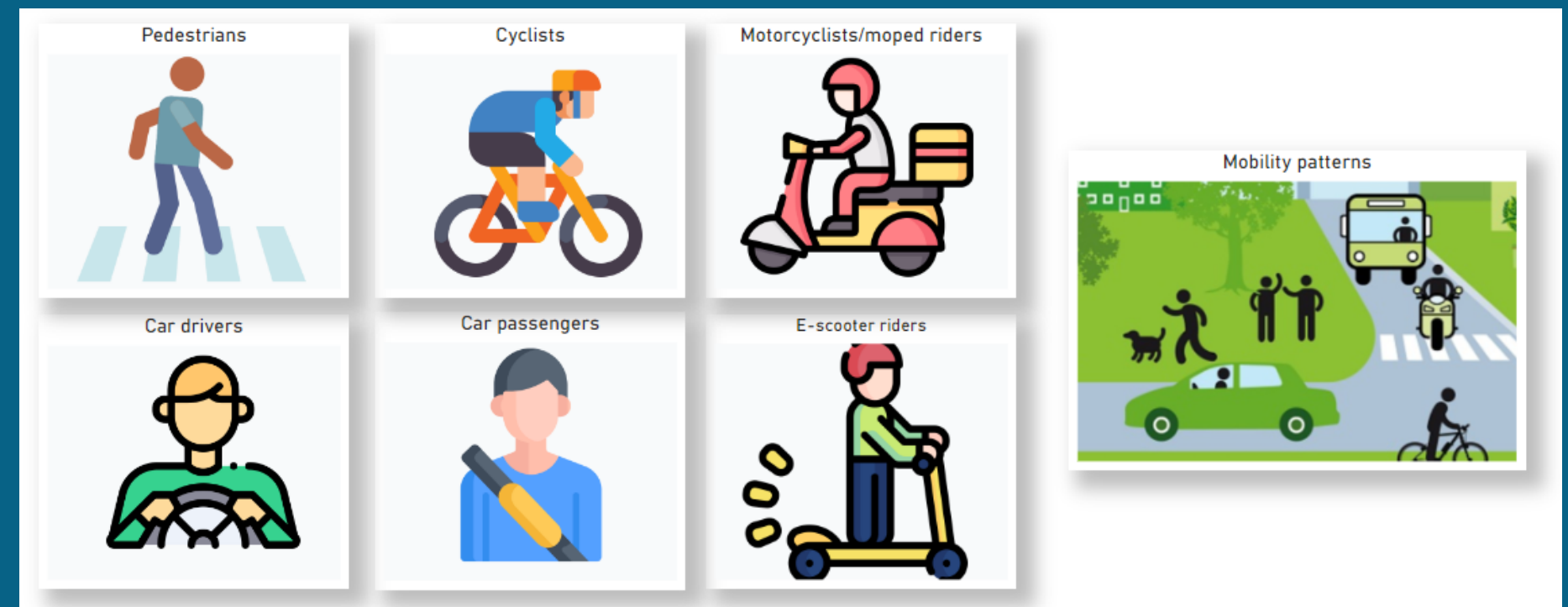


Examples of questions/questionnaires about:

- Mobility patterns
- Risky behaviours in traffic

Online app

Presentation



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N.º 101006468



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# Survey research



## What is survey research?

In this type of research, the **data are obtained through a questionnaire** answered by members of a sample of the population to be studied (school community, students, teachers, parents,...).

The questionnaire may include questions to assess:

- **mobility patterns**, for example, the percentage of students who travel to school by bicycle;
- **risk behaviours in traffic** (self-declared), for example, the percentage of students who never wears the seat belt when traveling by car;
- **risk perception of traffic behaviours**, for example, the percentage of students who do not consider that is risky to cross the road when the pedestrian traffic light is red.

The information obtained through questionnaire is **important for evaluating road users' behaviours and attitudes and for proposing measures that lead to safer behaviours in traffic**. For example, if the percentage of students who do not wear the seat belt is very high, an awareness campaign could be carried out to highlight the importance of wearing seat belts.

This document provides information on **how to carry out a survey research**, from the definition of possible research questions, questions to include in the questionnaire, how to build databases and how to present the results.

## Steps

In this type of research, the **steps of the scientific method** normally used in scientific research are followed:

- Step 1 - Define a purpose/question
- Step 2 - Perform background research
- Step 3 - Establish hypotheses
- Step 4 - Run an experiment (gather data)
- Step 5 - Analyse the interpret the data
- Step 6 - Draw conclusions
- Step 7 - Share the results

[More information](#)

Forward



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**PRP**  
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Main page

Planning

Questionnaire

Data and calculations

Results

Example of dataset, formulas and graphs

## Planning

### 1. Define the objectives of the study

**What risk behaviours should be studied?** - distraction (use of a mobile phone); protection systems (seat belt, helmet); respect for traffic signs and rules; driving at excessive speed.

**Which road users should be included in the study?** - pedestrians; car drivers; car passengers; cyclists, scooter riders; motorcyclists/ moped riders.

### 4. Define the data collection method

The questionnaire can be answered on paper (printed version) or through online forms. Online forms have several advantages: facilitate the work of collecting and organizing data; provide graphs with results; are more environmentally friendly as there is no need to use paper. [Example of an online questionnaire](#) (Google Forms).

### 5. Build the questionnaire

Click on the button "Questionnaire" to see examples of questions that you can include in the questionnaire.

### 2. Define the population to study

At this stage you must define the population you are going to study. It can be the entire school community (students, parents, teachers/school staff), all students at the school or just students in a teaching cycle or school year.

The road users to include in the study depends on the population. For example, if the population only includes students, you should not include questions about driving a car.

### 3. Define the sample and sampling process

The questionnaire can be answered by the entire population to be studied or you can select a sample of the population.

There are several ways to select a sample. For example, you can randomly select a number of students per class (stratified sampling) or select one or more classes from each year and apply the questionnaire to all students in those classes (cluster sampling).



## Questionnaire - examples of questions

**In this section you can find examples of questions to help you to build your questionnaire.**

Click on the images below to see examples of questions about self-declared behaviours, acceptability and risk perception of traffic behaviours of pedestrians, cyclists, car passengers, car drivers, e-scooter riders, and motorcyclists/moped riders. You also have examples of questions to create a questionnaire to assess mobility patterns.

Main page

Planning

**Questionnaire**

Data and calculations

Results

Example of dataset, formulas  
and graphs

Pedestrians



Cyclists



Motorcyclists/moped riders



Car drivers



Car passengers



E-scooter riders



Mobility patterns





Main page

Planning

Questionnaire

**Data and calculations**

Results

Example of dataset, formulas and graphs

## Data and calculations

### Dataset

If you use a paper questionnaire, you must build a **dataset** with the answers to the questionnaire. You can use a spreadsheet (e.g. Excel) to record the data. In a dataset, the rows have the data of each individual who answered the questionnaire, and the columns have the answers to the questions in the questionnaire.

In the example of a dataset on the right, the 1st row has the answers from the 1st individual who answered: a male who rode a bicycle "a few times" without a helmet. If you use an online questionnaire, the dataset with questionnaire answers is automatically created.



id	Gender	Cycled without helmet
1	Male	2. Sometimes
2	Male	3. Always/almost always
3	Male	2. Sometimes
4	Male	3. Always/almost always
5	Male	2. Sometimes
6	Male	1. Never
7	Male	1. Never
8	Male	3. Always/almost always
9	Male	3. Always/almost always

### Calculations

The calculation of the indicators are done based on response counts. The table on the right shows the results of these counts for one question.

The questionnaire was answered by 111 people: 31 answered that they have never ridden a bicycle without a helmet, 55 have done it a few times and 25 have always/almost always ridden a bicycle without a helmet.

To calculate the percentages (indicators), just divide the number of answers by the total number of answers. For example, 27.9% of the respondents never rode without a helmet when cycling ( $=31/111*100$ ).

[Example of a dataset with formulas and graphs in Google Sheets.](#)



#### How often cycled without a helmet

Gender	1. Never	2. Sometimes	3. Always/almost always	Total
Female	11	10	6	27
Male	20	45	19	84
<b>Total</b>	<b>31</b>	<b>55</b>	<b>25</b>	<b>111</b>



Gender	1. Never	2. Sometimes	3. Always/almost always	Total
Female	40.7%	37.0%	22.2%	100.0%
Male	23.8%	53.6%	22.6%	100.0%
<b>Total</b>	<b>27.9%</b>	<b>49.5%</b>	<b>22.5%</b>	<b>100.0%</b>

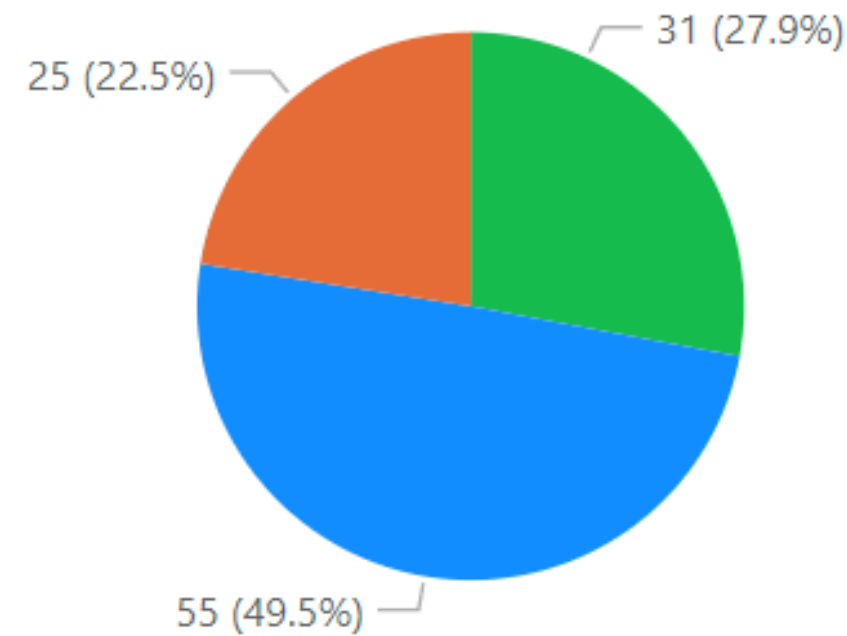


## Results - example

"In the past 30 days, how often did you ride a bicycle without a helmet?"

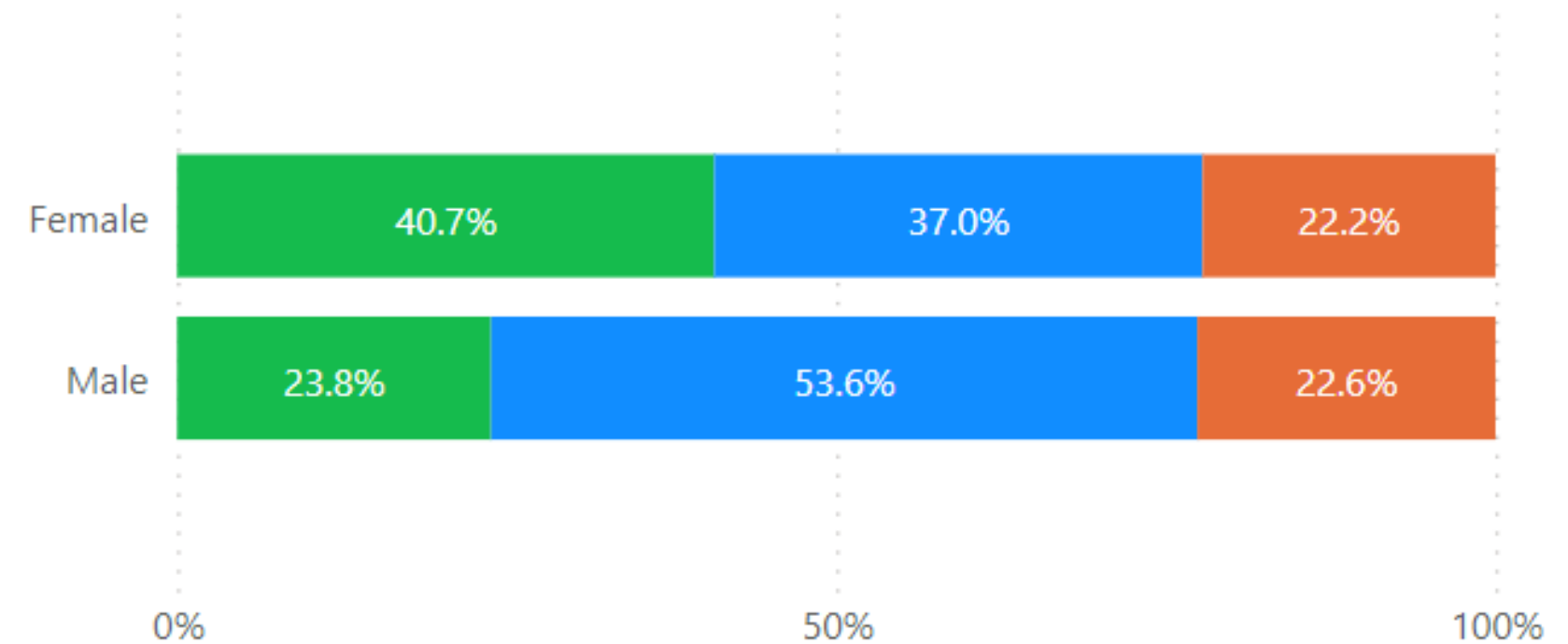
### Riding a bicycle without a helmet

● 1. Never ● 2. Sometimes ● 3. Always/almost always



### Riding a bicycle without a helmet, by gender

● 1. Never ● 2. Sometimes ● 3. Always/almost always



Main page

Planning

Questionnaire

Data and calculations

Results

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Most of the 111 cyclists who answered to the questionnaire stated that, in the previous 30 days, they rode a bicycle sometimes (49.5%) or always/almost always (22.5%) without a helmet. Only 27.9% have never ridden a bike without a helmet. This percentage was higher among women (40.7%) than among men (23.8%).



## Documents available online for download

### Examples of questionnaires/questions:

- School Travel Questionnaire.
- Questionnaires on self-declared behaviours, acceptability and risk perception of traffic behaviours:
  - Pedestrians.
  - Cyclists.
  - Motorcyclists/moped riders.
  - Car drivers.
  - Car passengers.
  - E-scooter riders.



**Presentation with the steps of the scientific method.**

**Spreadsheet with an example of a dataset, calculation formulas and examples of graphs.**

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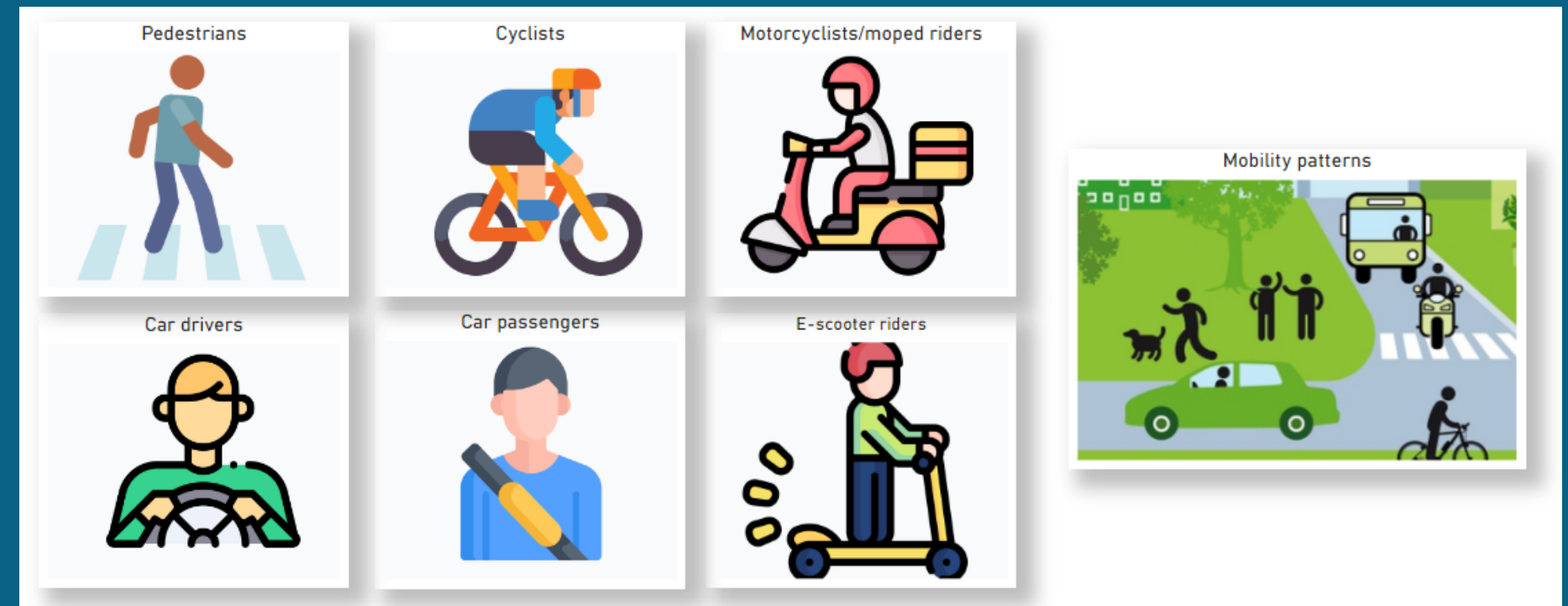
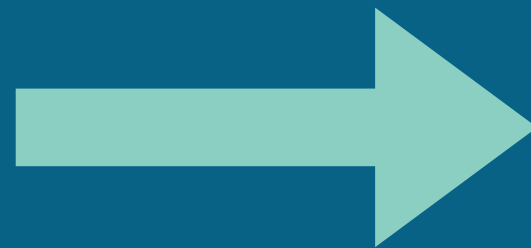
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